

# A new species of stonefly (Plecoptera: Nemouridae) from South Africa

by

B. I. BALINSKY

Department of Zoology, University of the Witwatersrand,  
Johannesburg

## INTRODUCTION

In my description of *Aphanicercopsis amatolae* Balinsky (1956) I mentioned a male specimen closely resembling the type specimens of *A. amatolae*, but differing in a few characters. At the time it was not possible to decide whether this specimen was an individual variation, or whether it represented a further undescribed species. In 1962 I had the opportunity to do some collecting on a stream in the Amatola mountains and among the collected stoneflies there were several specimens of the aberrant type, as well as further specimens of the typical *A. amatolae*. As the aberrant specimens showed consistently the same characters as the specimen examined previously, and as there were no specimens with intermediate characters, it became evident that the aberrant type is in fact a separate species. The presence of two distinct species of *Aphanicercopsis* in the Amatola mountains explains the heterogeneity in the females which I noted at the time of writing my previous paper (1956) without being able to account for it. I propose to name the new species:

*Aphanicercopsis spinulata* spec. nov., fig. 1A—E

Very similar to *A. amatolae* but differing from it most obviously by the presence of only one medial spine on the posterior edge of the 9th tergite, as well as some other less conspicuous characters.

Head dark chestnut-brown, compound eyes grey, ocelli white. Body a lighter chestnut-brown. Wings smoky, with some darker areas in mature specimens. Intercubital cross veins 7-10 in males and 9-12 in females. Legs distinctly bicolourous; main colour of femur yellow, distal end brown. Tibiae of fore and middle legs brown, tibiae of hind legs yellow with a brown mark below the knee and with brown distal ends; tarsi brown.

♂-Genitalia (fig. 1A, B, C): basal appendage of 9th sternite elongated with sclerotized but not conspicuously inflated proximal part and an ovoid vesicle. Subgenital plate elongated triangular, posterior part curved upwards; 9th tergite rounded posteriorly, but in the middle drawn out and bearing a single strongly sclerotized spine (fig. 1C); 10th tergite consisting of two sclerotized plates which

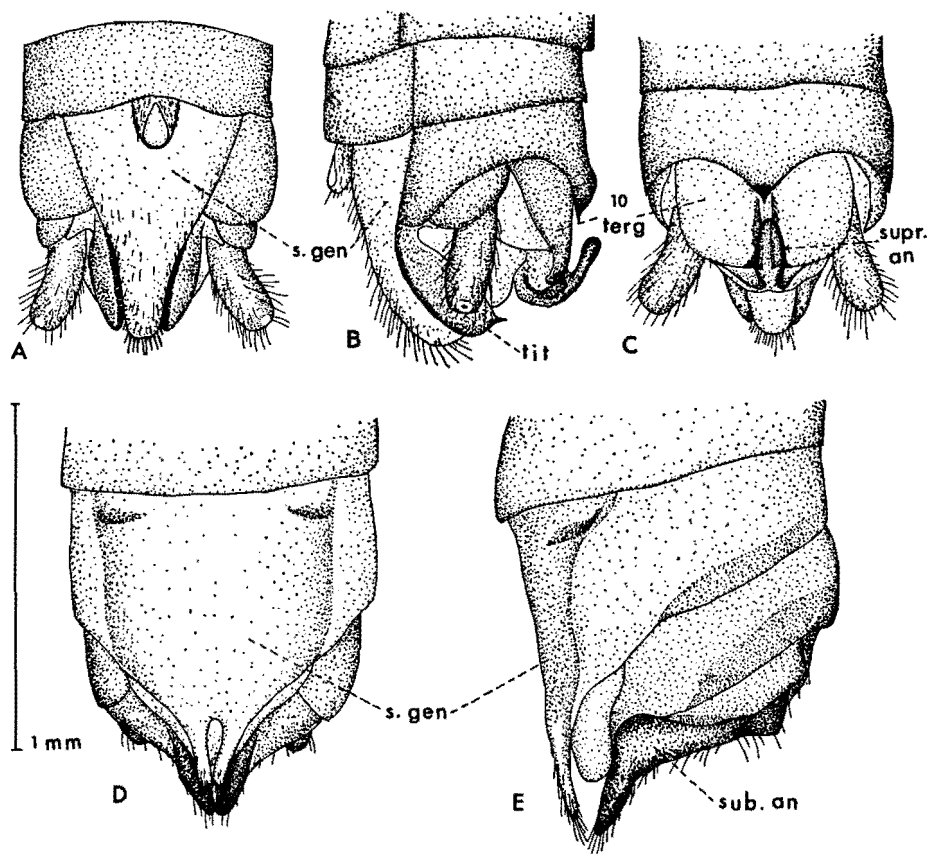


Fig. 1. *Aphanicercopsis spinulata* spec. nov. A. last segments of abdomen of male in ventral view; B. same viewed from the left side; C. same in dorsal view; D. last segments of abdomen of female in ventral view; E. same viewed from the left side.

Abbreviations: s. gen – subgenital plate, supr. an – supra-anal lobe, sub. an – subanal plates, 10 terg – plates of 10th tergite, tit – titillator.

are particularly dark along their medial border, which posteriorly ends with a single short black spine (these are best shown in figure 1B). In *A. amatolae* the same plates end posteriorly in a black serrated ridge. Supra-anal lobe narrow, bent forwards and normally lies in the groove between the two plates of the 10th tergite.

Sclerotized parts of the titillators elongated and somewhat broader than in *A. amatolae* (their shape is best seen in figure 1b). The supporting process emerging from the base of the titillator laterally is less conspicuous than in *A.*

*amatolae*. The tiny spine at the tip of the titillator (seen clearly in figure 1B) is directly connected to the main sclerotized part of the titillator and not borne by a small separate plate. Cerci thick and short.

♀-Genitalia (fig. 1D, E): similar to those of *A. amatolae*, but the subgenital plate of the 8th sternite is shorter. The posterior end of the plate is prolonged by two narrow lobes bearing long hairs at the tip. The cleft separating the two lobes reaches to the level of the posterior border of the main part of the subgenital plate. In *A. amatolae* the two posterior lobes are borne by a neck, which is not split by the cleft and distinctly protrudes beyond the posterior outline of the main body of the subgenital plate (see figure 1e in Balinsky, 1956). The subanal plates similar in shape to those of *A. amatolae* but slightly shorter.

	Length of body	Length of fore wing	Length of pronotum	Breadth of pronotum
♂♂	4.6-5.7	7.8- 8.7 mm	0.6-0.7 mm	0.9 -1.0 mm
♀♀	5.9-8.3	8.6-10.3 mm	0.8-0.95 mm	1.05-1.25 mm

MATERIAL STUDIED: ♂-Holotype and ♀-allotype: Amatola Mountains, 31.VIII.1962, B. I. Balinsky; both types will be deposited in the Transvaal Museum. Paratypes: six ♂♂ and three ♀♀, Amatola Mountains, 31.VIII. 1962, B. I. Balinsky; one ♂, Grahamstown, 9.IX.1954, M. T. Darlison; one ♀, Grahamstown, 15.IX.1954, E. McC. Callan, and three ♀♀, Hogsback, Amatola Mountains, September 1952, M. T. Myers.

As no specimens were taken *in copula* and as *A. amatolae* and *A. spinulata* occur side by side in the same localities, the assignment of the females to the two species is rather a matter of conjecture. On closer study (contrary to what I wrote in 1956) the available females fall distinctly into two groups depending on the shape of the subgenital plate. The males of *A. amatolae* are fractionally larger on the average than those of *A. spinulata*. Similarly the females with elongated subgenital plates are slightly larger on the average than those with shorter subgenital plates suggesting that the latter belong to the species *A. spinulata*. The frequency of the two forms is also in accord with this assumption: on 31.VIII.1962 I collected four males of *A. amatolae* and two females with elongated subgenital plates; seven males of *A. spinulata* and four females with shorter subgenital plates. The female represented in Fig. 1d, e, of my paper (1956) is one with the elongated subgenital plate and thus appears to have been correctly recognized as conspecific with the male of *A. amatolae*.

#### REFERENCE

- BALINSKY, B. I., 1956. On some stoneflies (Plecoptera) from the eastern parts of South Africa. *J. ent. Soc. sth. Afr.*, **19**: 289-301.